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Volume 1. Summary Findings

How Effective Is Community-Based Primary Health Care in Improving the Health of Children?

A Review of the Evidence

**Report to the Expert Review Panel, the World Health
Organization, UNICEF, and the World Bank**

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Disclaimer

The findings reported here do not necessarily represent the views of the US Centers for Disease Control and Prevention.

Preface

We had hoped that this would be our final report to the Expert Review Panel of our work which began 18 months ago. However, in spite of our best efforts, we have not been able to achieve this. Nonetheless, once you begin to explore this document, I think you will appreciate the magnitude of the task we have taken on. So, you see the title of the document is “Second Draft,” not “Final Report.”

One major piece of our work is yet to be completed, namely the statistical analysis of the data extracted by our reviewers. The limited funds we have had were used primarily to pay reviewers. Even so, most of the reviews were carried out by volunteers. We have had more than 70 people collaborating with us on these reviews. The data extraction process has been an extremely time consuming activity – not only for the reviewers themselves but for us in managing and coordinating this effort. We do provide some limited and preliminary findings from the statistical analysis, but much more will be forthcoming with the next draft.

This document is itself incomplete as well. There are still pieces of missing information, errors, and incomplete commentary and analysis. Further editing is also needed. But, we feel confident that we have provided a lot of useful information that has not yet been pulled together into a single place on this extremely important topic – community-based primary health care and its effectiveness in improving child health.

So, please bear with us as we continue our work. We have come to believe that not having completed our review is in fact a blessing in disguise since it will give you, as members of the Expert Review Panel, a stronger role in fashioning the outcome of our work. We look forward to your comments, criticisms, and advice for the next steps in our review.

We suggest that you give your first and priority attention to the Conclusions and Recommendations and pages that follow (pages 19-25). Once you have fully absorbed this, we invite you to read Volume 1 in its entirety and that you explore Volume 2 (198 pages altogether) as time permits.

Glossary

ACSD	Accelerated child survival and development
ADRA	Adventist Development and Relief Agency
APHA	American Public Health Association
ARI	Acute respiratory infection
ASAT	<i>Anchal Se Angan Tak</i>
CBPHC	Community-based primary health care
CCCD	Combating childhood communicable diseases
CCMWs	Community Case Management Workers
CHNs	Community Health Nurses
CHOs	Community Health Officers
CHVs	Community health volunteers
CHWs	Community health workers
C-IMCI	Community IMCI
COPC	Community-oriented primary health care
CORE	The CORE Group (the Collaboration and Resources Group for Child Health), a consortium of US-based PVOs that direct community-based programs to improve child survival
CTC	Community-therapeutic care
CVs	Community volunteers
DHS	Demographic and health survey
DIP	Detailed implementation plan
FCHVs	Female community health volunteers
HAS	Hôpital Albert Schweitzer
HEWs	Health Extension Workers
HVTs	Health volunteer teams
GIS	Geographic information system
ICDS	Integrated Child Development Services
IMCI	Integrated management of childhood illness
ITC	Insecticide-treated curtain
ITN	Insecticide-treated bednet
LAM	Lactational amenorrhea method
LBW	Low birth weight
MCH	Maternal and child health
MDGs	Millennium Development Goals (of the United Nations)
MIHV	Minnesota International Health Volunteers
MNAs	Malaria/Nutrition Agents
MTCT	Mother-to-child transmission
M2M	Mothers to Mothers (Mentoring program in Africa)
NGO	Non-governmental organization
ORT	Oral rehydration therapy

ORW	Oral Replacement Worker
OTP	Outpatient therapeutic program
OTEP	Oral Therapy Extension Program
PD	Positive Deviance
PDR	People’s Democratic Republic
PMTCT	Prevention of mother-to-child transmission (of HIV infection)
PMWs	Paramedical workers
PSI	Population Services International
PVO	Private voluntary organization
RUTF	Ready-to-use therapeutic food
SES	Socio-economic status
STIs	Sexually transmitted infections
Task Force:	This refers to the Task Force on the Systematic Review of the Effectiveness of CBPHC in Improving Child Health of the Working Group of CBPHC of the International Health Section of the American Public Health Association
TBA	Traditional birth attendant
UNICEF	United Nations Children’s Fund
USAID	The United States Agency for International Development
VDCs	Village development committees
VHCs	Village health committees
VHWs	Village health workers
VHVs	Village health volunteers
WHEs	Women Health Educators
WHO	World Health Organization
YZ	Yezura Zenna (male health volunteers in Ghana)

EXECUTIVE SUMMARY

Excitement is now rapidly growing concerning the potential of community-based primary health care (CBPHC) to accelerate progress in reducing the tragedy of millions of deaths of children around the world each year from readily preventable or treatable conditions. Consequently, a systematic review of the evidence concerning the effectiveness of community-based approaches is timely. This report is the second draft of such a review. It provides a description of the major field research studies which have been carried out along with a summary of many of the reviews of other studies and field experiences that are relevant to the effective application of current knowledge and practice for the benefit of children in resource-poor settings.

This review covers much – but not all – of what is known at present about community-based approaches to improve the nutritional status of children; to improve perinatal and neonatal health; to prevent and treat childhood pneumonia, diarrhea and malaria; to promote handwashing, immunizations, and family planning; to prevent mother-to-child transmission of HIV infection, and to improve child health through non-health interventions. The review also covers major programmatic achievements in child health during the past 25 years, cross-cutting themes (community health workers, equity issues, and the broader social determinants of health), and programmatic approaches which are currently in use or which are emerging.

This review confirms UNICEF’s view that “there is more than enough information to act” (UNICEF, 2007, p. 99). The evidence supports major efforts to expand and maintain high coverage of the following community-based interventions:

The review confirms the extensive evidence that the following interventions and approaches are effective and should receive priority in programming of community-based interventions:

- Immunizations for mothers and children (especially tetanus toxoid immunization for mothers and measles immunization for children);
- Provision of supplemental vitamin A;
- Promotion of exclusive breastfeeding during the first 6 months of life and continued breastfeeding after 6 months of age;
- Promotion of hygiene, safe water, and sanitation;
- Promotion of oral rehydration therapy (ORT) and zinc supplementation for children with diarrhea;
- Promotion of handwashing before preparing food and eating, after defecating, and after caring for a child who has defecated;
- Promotion of clean delivery in areas where most births occur at home and where hygiene is poor;
- Home-based neonatal care, with promotion of immediate and exclusive breastfeeding, cleanliness and prevention of hypothermia;
- Community-based treatment of childhood pneumonia;

- Insecticide-treated bednets in malaria-endemic areas;
- Detection and treatment of syphilis in pregnant women in areas of high prevalence; and,
- Iodine supplementation in iodine-deficient areas.

There is emerging evidence that the following community-based interventions are efficacious and need more evaluation, especially in more routine settings. These include:

- Community-based treatment of malaria;
- Community-based rehabilitation of malnourished children through the Positive Deviance/Hearth approach or through the provision of ready-to-use dry therapeutic foods;
- Prophylactic supplemental zinc;
- Promotion of appropriate complementary feeding from 6-9 months of age;
- Provision of prenatal calcium for prevention of pre-eclampsia and eclampsia;
- Intermittent preventive treatment of malaria during pregnancy in malaria endemic areas;
- Detection and treatment of asymptomatic bacteriuria;
- Application of a topical antiseptic to the umbilical cord of neonates;
- Skin cleansing of newborns with a topical antiseptic soon after birth;
- Improved airway management and resuscitation in neonates by trained community health workers;
- Detection and treatment of neonatal sepsis by trained community health workers;
- Reduction of household smoke by placement of improved cooking stoves (to reduce childhood pneumonia);
- Participatory women's groups for empowerment and education about maternal and neonatal health issues;
- Non-health interventions, including micro-credit programs for women and conditional cash transfers to women; and,
- Promotion of socio-political environments which support maternal and child health and access of the entire population to high-quality basic services.

For those interventions which have a strong scientific basis of effectiveness, the challenge now is to implement these in packages first on a pilot basis and then scale these up, with rigorous assessments to judge effectiveness and to make adjustments in implementation as the scale of implementation expands.

This review provides descriptions of a number of highly successful CBPHC projects and programs that have implemented integrated approaches in an effective and affordable manner with demonstrable benefits on under-5 mortality while at the same time demonstrating other major health and non-health benefits at the same time. These integrated approaches deserve broader support.

New methods for assessing impact are needed to further strengthen routine programming at scale.

The widespread application of this knowledge at scale coupled with careful monitoring of the effectiveness of community-based approaches and their integration with higher levels of health services has the potential to spark a second revolution in maternal, neonatal and child health and to accelerate progress in reaching Millennium Development Goal 4 of reducing under-5 mortality by two-thirds between 1990 and 2015.

INTRODUCTION

Remarkable progress has been made in reducing the number of child deaths during the past 30 years; the number of children dying before age 5 has declined from 18.9 million in 1960 to 9.7 million today despite the fact that the number of births each year has increased from 96 million in 1960 to 135 million in 2007 (Ahmad et al., 2000; Black et al., 2003; UNICEF, 2007). However, the great majority of the deaths that are still occurring are caused by readily preventable or treatable causes. Furthermore, the dramatic global disparities in the health status of children is increasing rather than declining, and many countries around the world – especially in Africa – are not on track to achieve Millennium Development Goal (MDG) Number 4 by the year 2015, which calls for reducing the mortality of children aged less than 5 years by two-thirds (United Nations, 2006).

There is a growing sense that programs which reach beyond the walls of health care facilities and which involve the community as partners – if well-designed and well-implemented – have a great potential for reducing under-5 mortality at minimal cost. There are, in fact, inspiring examples of where this in fact has occurred both in small-scale, short-term pilot projects as well as in large-scale ongoing programs. The number of recent studies demonstrating the potential of this approach is growing, and interest in community-based primary health care (CBPHC) is on the rise. Nonetheless, a broad understanding regarding what has been achieved so far through these types of approaches is still lacking.

It appears that strengthening CBPHC may have the potential to accelerate progress in reaching the MDGs in health. It also appears that CBPHC may have the potential for providing another entry point for accelerating progress in the building of more comprehensive primary health care programs that are effective and that, at the same time, meet the needs and expectations of local people.

The present document is the second draft of a report of the findings of this systemic review for the Expert Review Panel, which has been convened to address these issues.

There is now more than ever a need for evaluation of what works and for “systematic sharing of good practices and greater sharing of new information” (UNICEF, 2007, p. 99). This is an opportune time to review the available evidence regarding the effectiveness of CBPHC, to draw conclusions regarding the findings which have arisen from this review, and to suggest next steps in research, policy and program implementation.

GOALS OF THE REVIEW

The goal of this review is to describe what has been achieved through community-based approaches to the improvement of the health of children and to point out their potential and gaps in our knowledge about them.

The questions which this study proposes to address are:

- How strong is the evidence that CBPHC can improve the health of children at the population level and sustain that improvement?
- Do specific CBPHC activities improve child health (as defined by mortality, nutritional status, and coverage of key child survival activities)?

- What conditions (including those within the local health system itself) must be in place in order for community-based interventions to be effective, and what are the most effective community-based approaches for improving child health?
- What program elements appear to improve child health (as defined by mortality, nutritional status, and coverage of key child survival activities)?
- How strong is the evidence that partnerships between communities and health systems are required in order to improve child health?
- How strong is the evidence that CBPHC can be cost-effective and promote equity?
- What lessons can be drawn from both successful and unsuccessful experiences?
- What additional research is needed?
- How can successful community-based approaches for improving child health be scaled up to regional and national levels within the context of severe financial and human resource constraints?
- What are the implications for regional, national and global health policy, for program implementation, and for donors?

This report reviews the documented and evaluated experiences of using CBPHC to improve child nutrition and perinatal/neonatal health; to prevent, diagnose and treat childhood pneumonia, diarrhea, and malaria; to expand coverage of immunization programs, programs to prevent the mother-to-child transmission of HIV infection, and family planning programs; and non-health interventions (conditional cash transfers, micro-credit, and education). The report also examines the effectiveness of integrated projects/programs, reviews programmatic achievements of CBPHC in a variety of settings, and examines cross-cutting themes, and established as well as emerging programmatic approaches.

METHODS (ABBREVIATED SUMMARY)

Definition of CBPHC

We have selected a broad definition of CBPHC that in essence involves any activity which meets the following two conditions: (1) the activity directly or indirectly has a positive influence on health, and (2) it does not take place exclusively in a health center or hospital. Thus, CBPHC includes highly selective as well as comprehensive interventions and activities which may or may not involve the community in the planning, implementation or evaluation. Our definition of CBPHC also includes communications, social mobilization, community activities, and broader development activities which influence health. Volume 2 (pages 1-5) contains the full definition of CBPHC developed for the review.

Identification of Articles and Other Documents for the Review

The Task Force carried out a literature search for articles. The principal inclusion criteria were (1) the program managers or researchers implemented one or more interventions using a CBPHC approach and (2) they carried out either a direct assessment of child health status or an indirect assessment of child health status by assessing a process or outcome known to be closely associated with child health status. In general, our focus has been reviewing the effectiveness of program interventions on population-based child health, not on subsets of children within the population. Furthermore, we have not reviewed epidemiologic studies of the existing state of affairs (i.e., observations studies) unless they have a close and obvious relationship to a CBPHC intervention.

The direct assessments of child health which qualified for the review included measures of mortality, morbidity and nutritional status. The indirect assessments of child health which qualified for the review included key community-based behaviors and key community-based health service interventions for which there is a strong consensus regarding their close link to child health. These interventions are all included in the *Lancet* series in 2003 and 2005 on child survival and neonatal health (Jones et al., 2003; Darmstadt et al., 2005). All can be provided through a CBPHC approach, and all have been strongly linked to improvements in child mortality.

Key terms were used in a literature search of Pub Med and Cochrane Reviews. In addition to this, broadcasts were sent out on widely used global health listserves, including those of the Global Health Council, the American Public Health Association, the Collaboration and Resources Group for Child Health (the CORE Group), the World Federation of Public Health Associations, and the Association of Schools of Public Health asking for information about documents, reports, and published articles which addressed any of these topics. Finally, the Task Force contacted knowledgeable persons for their suggestions for documents to be included. Documents not published in peer-reviewed scientific journals were included if they met the criteria for review, if they provided an adequate description of the intervention, and if they had a satisfactory form of evaluation.

Altogether, almost 400 published articles and other project or program documents are included in this review, including 218 individual studies reviewed independently by two reviewers and approximately 40 reviews of individual research studies. This review is certainly a comprehensive one, but at the same time we make no claim that it is a complete one. We have done our best with the time and resources at our disposal.

The Document Review Process of Individual Studies

Individual studies that qualified for inclusion were sent out to two independent reviewers who each completed a Data Extraction Sheet (a copy of which is included in Appendix 3), which was then consolidated by a third reviewer and placed into an EPI INFO database. For a small subset of approximately 20 articles, a supplemental data extraction form was also completed by two separate reviewers in order to obtain further information about the implementation process. These articles describe the implementation of a package of at least three separate interventions which were implemented over a period of at least 4 years, and in all cases changes in mortality, nutritional status or coverage of key child survival interventions were documented,

The Current Document Database

The document database at present includes the following as shown in Table 1.

Table 1. Summary of Articles and Documents Included in the Review

Type of document	Number
Review articles/documents	40
Individual articles/documents describing specific projects or programs which were reviewed by 2 independent reviewers and the summative results placed into an EPI INFO database	218
Articles/documents undergoing supplemental data extraction (in addition to the basic data extraction)	20
Total number of articles reviewed	378

Analysis of Information

Our review includes brief descriptions of the findings of the many review articles and separate studies of individual programs and interventions. These are all included in Volume 2. In addition, an analysis has been carried out of extracted data from each of the individual studies included in the review. Our intent here is not simply to repeat the basis for why many community-based interventions are effective (although that is certainly included in many cases) but, more importantly, to derive information from the studies about the community context of these interventions, various ways in which specific interventions have been combined into specific ongoing programs, and how effective the various approaches have been in more routine field situations.

All results reported from article reviews and individual articles are statistically significant (at least at the 0.05 level) unless otherwise noted and, in general, we have judged them to be substantively significant as well. When reporting findings, we have generally reported percentages which have been rounded to the nearest integer.

Limitations of the Methodology

Our review is limited to documents which describe program interventions. In a few cases, we have included written documents used for presentations of findings at scientific meetings which have not yet been published. The information available for review is inherently biased in the sense that failures and problems are rarely shared with the broader international health community and are certainly not present, with rare exceptions, among the documents in our review. (This bias is often called publication bias.) In addition, the magnitude of the scope of the review is far greater than the few resources we have been able to gather. Therefore, we have not been able to include all of the available documentation that would qualify. However, we do think that what we have included here is broadly representative of the documented evidence which exists.

Funding and Other Sources of Support

Funds to cover the expenses of this review were provided by UNICEF, the Department of Child and Adolescent Health and Development of the World Health Organization, the CORE Group (Collaboration and Resources for Child Health)/USAID, and Future Generations. The American Public Health Association and its International Health Section staff provided support by administering the funds for the review. Future Generations provided office space and administrative support. The World Bank provided time for one of its Public Health Specialists (Dr. Bahie Rassekh) to participate as a member of the Study Team. The members of the Task Force contributed significant volunteer time as did many of the reviewers. Students at several universities, most notably the Johns Hopkins University, assisted with the review, and Johns Hopkins also provided library support. The US Centers for Disease Control and Prevention in Atlanta provided technical support related to the EPI INFO software used in the study. Those who provided financial support had no role in the execution of this review.

FINDINGS

How strong is the evidence that CBPHC can improve the health of children at the population level and sustain that improvement?

There is strong evidence that both specific well-designed and well-implemented interventions at the community level (outside of fixed-site facilities) as well as well-designed and well-implemented community-based programs which provide a broader array of services – both in the sphere of child health as well as in the broader spheres of primary health care and even community development more broadly – can improve the health of children. This is in contrast to the strong evidence that even in relatively ideal conditions, health centers by themselves (when brought into a program of Integrated Management of Childhood Illness under relatively ideal conditions) have minimal effect on the mortality of children in the population served by the facility.

Chapter 2 of Volume 2 (pages 6-88) presents the evidence regarding the efficacy and the effectiveness of individual CBPHC interventions. Chapter 3 of Volume 3 (pages 89-149) presents the evidence regarding the efficacy and effectiveness of projects/program/studies of integrated packages of interventions, including those providing primary health care, comprehensive primary health care, and health and development interventions combined.

Do specific CBPHC activities improve child health (as defined by mortality, nutritional status, and coverage of key child survival activities)?

The review confirms the extensive evidence that the following interventions and approaches are effective and should receive priority in programming of community-based interventions:

- Immunizations for mothers and children (especially tetanus toxoid immunization for mothers and measles immunization for children) (see pages 30-31 and 76-79 of Volume 2);
- Provision of supplemental vitamin A (see pages 13-18 of Volume 2);
- Promotion of exclusive breastfeeding during the first 6 months of life and continued breastfeeding after 6 months of age (see pages 25-29 of Volume 2);
- Promotion of hygiene, safe water, and sanitation (see pages 32-38 and 64-75 of Volume 2);
- Promotion of oral rehydration therapy (ORT) and zinc supplementation for children with diarrhea (see pages 19-23 and 64-71 of Volume 2);
- Promotion of handwashing before preparing food and eating, after defecating, and after caring for a child who has defecated (see pages 72-75 of Volume 2);
- Promotion of clean delivery in areas where most births occur at home and where hygiene is poor (see pages 30-43 of Volume 2);

- Home-based neonatal care, with promotion of immediate and exclusive breastfeeding, cleanliness and prevention of hypothermia (see pages 33-39 and 43-44 of Volume 2, ;
- Community-based treatment of childhood pneumonia (see pages 45-55 of Volume 2);
- Insecticide-treated bednets in malaria-endemic areas (see pages 56-64 of Volume 2);
- Detection and treatment of syphilis in pregnant women in areas of high prevalence (see page 41 and page 43 of Volume 2); and,
- Iodine supplementation in iodine-deficient areas (see pages 24 of Volume 2).

There is emerging evidence that the following community-based interventions are efficacious and need more evaluation, especially in more routine settings. These include:

- Community-based treatment of malaria (see pages 56-63 of Volume 2);
- Community-based rehabilitation of malnourished children through the Positive Deviance/Hearth approach or through the provision of ready-to-use dry therapeutic foods (see pages 7-8, 10-12, and 112-3 of Volume 2) ;
- Prophylactic supplemental zinc (see pages 19-23 of Volume 2);
- Promotion of appropriate complementary feeding from 6-9 months of age (see pages 6-7 of Volume 2);
- Provision of prenatal calcium for prevention of pre-eclampsia and eclampsia (see page 43 of Volume 2);
- Intermittent preventive treatment of malaria during pregnancy in malaria endemic areas (see page 43 of Volume 2);
- Detection and treatment of asymptomatic bacteriuria (see page 43 of Volume 2);
- Application of a topical antiseptic to the umbilical cord of neonates (see page 36 of Volume 2);
- Skin cleansing of newborns with a topical antiseptic soon after birth (see page 37 of Volume 2);
- Improved airway management and resuscitation in neonates by trained community health workers (see pages 33-35 and 43 of Volume 2);
- Detection and treatment of neonatal sepsis by trained community health workers (see pages 33-35, 37-9, and 43 of Volume 2) ;
- Reduction of household smoke by placement of improved cooking stoves (to reduce childhood pneumonia) (see page 49 of Volume 2);

- Participatory women’s groups for empowerment and education about maternal and neonatal health issues (see pages 27-29, 32, and 35-6 of Volume 2);
- Non-health interventions, including micro-credit programs for women (page 88 in Volume 2) and conditional cash transfers to women (pages 87-8 of Volume 2); and,
- Promotion of socio-political environments which support maternal and child health and access of the entire population to high-quality basic services (data not yet ready for presentation).

With respect to integrated programs (those with at least three child survival interventions), we carried out a review which confirms that they are effective in increasing coverage. In fact, a number of them have demonstrated improvements in childhood nutritional status and mortality. In virtually all cases, these projects/programs have strong community outreach components (particularly with some form of home visits to all households), use some type of community-based health worker, and have developed some type of strong community partnership and community mobilization (see pages 145-149 of Volume 2).

The following community-based interventions have been rigorously evaluated and do not appear to have a beneficial effect on the health of children:

- Supplementary feeding programs in non-emergency situations (see pages 7, 9-10 of Volume 2); and,
- De-worming medication for children (on growth or on cognition/school performance) (see pages 9-10 of Volume 2).

The following community-based interventions have not had sufficiently rigorous evaluations to be able to determine their effectiveness:

- Antenatal care (data not provided in this draft);
- Growth monitoring (data not provided in this draft);
- Large-scale integrated programs to reduce stunting and wasting (pages 109-116 of Volume 2); and,
- Birthing homes (data not provided in this draft).

The following community-based interventions appear to have adverse effects:

- Iron supplementation in malaria-endemic areas (leads to increased need for hospitalization and/or death in one well-designed study) (see pages 23-24 of Volume 2); and,
- Micronutrient mix of iron, other minerals including zinc, and riboflavin (associated with an increased risk of diarrhea in one well-designed study) (see pages 20-21 of Volume 2).

What conditions (including those within the local health system itself) must be in place in order for community-based interventions to be effective and what are the most effective community-based approaches for improving child health?

Considerable evidence based on experience demonstrates that the health system needs to have earned the trust and respect of the community if community-based interventions being promoted by the health system are going to be effective. For example, a global review of the sustainability of EPI programs came to the firm conclusion that ability of EPI programs to maintain high levels of coverage depends on the local population

having confidence in the local health system, and this requires first and foremost that the health center have drugs (UNICEF Steering Committee, 1996).

Second, some type of community-based worker is needed in order to implement these interventions. In order for these workers to be effective, they must be appropriately trained and given proper ongoing support. If these workers are unpaid volunteers, they must not be overloaded with tasks and be expected to work more than a few hours a week at most. Otherwise they will abandon their responsibilities (see pages 147-8 and 166-167 of Volume 2).

Third, a method of developing and maintaining contact with all homes is necessary in order to identify pregnant women and young children, to provide services there when possible, to identify those in need of additional services, and to facilitate these people in obtaining needed services. Routine systematic home visitation by community-based workers is the most common approach to achieving this (see pages 147 of Volume 2 and page 14 of this report, Volume 1).

What program elements appear to improve child health (as defined by mortality, nutritional status, and coverage of key child survival activities)?

There are two basic program elements which are required: (1) effective interventions need to be implemented in a way that enhances the community's trust and confidence in the health care system, and (2) these interventions must reach those who need them when they need them (or the community must know how to access them at the appropriate time). These findings are logically intuitive but they are emphasized throughout Volume 2.

Implicit in the above is (1) that the interventions being implemented are directed against priority needs in the population and (2) the program gives priority to interventions that are addressing priority causes of childhood malnutrition, disease and death in the population and the age group of children at greatest risk of these conditions. If pneumonia among children aged less than 2 years is the leading cause of under-5 death by far in the population, then program activities should similarly reflect this priority.

In addition, in high-mortality settings with weak health systems, ways have to be found to ensure that those families who are at the margins either geographically or socially receive priority services. These groups generally have a considerably higher risk of death (for an example, see Perry et al., 2007) and therefore, apart from issues of equity, merit priority attention from the public health point of view of improving health of children in the entire population.

How strong is the evidence that partnerships between communities and health systems are required in order to improve child health?

There are many examples in which interventions and programs have improved child health without any involvement of the community. In general, the various efficacy studies demonstrating impact of specific interventions have all been carried out without a well-established community partnership. Many national programs in less-developed countries which have effectively reduced child mortality have not established community partnerships, but these have generally been in settings with strong political support for health care

and a strong and stable government health scheme. Among the programs which qualified for our review which implemented at least three interventions over a period of at least 4 years, all have worked hard to build and maintain a strong partnership with the community (see pages 147-8 of Volume 2 and pages 14 of this report, Volume 1).

Our review was limited to studies which employed some type of CBPHC to improve child health. Therefore, we did not search for studies that used a different approach to improve child health. Our review did identify one recent randomized trial which compared the effectiveness of a home-based approach with a clinic approach. In both arms, community mobilizers were used to promote the intervention. In the home-based arm (but not in the clinic arm) paid workers visited homes to deliver the intervention. There was no mortality effect in the clinic arm but a substantial mortality effect in the home-based arm compared with the control arm (Baqui et al., 2008).

How strong is the evidence that CBPHC can be cost-effective and promote equity?

Many of the studies described in Volume 2 have reported estimates of cost per life saved, per year of life saved, or per DALY saved. In general, the following individual CBPHC interventions are highly cost-effective:

Table 1. Cost-Effectiveness of CBPHC

Type of CBPHC	Measure of Cost-Effectiveness			Location in Volume 2 of this information (page #)
	Cost per life saved	Cost per year of life saved	Cost per DALY saved	
Individual Interventions				
Vitamin A supplementation	\$11			15
Community-based therapeutic care for severe acute malnutrition	\$327-387	\$12-132	\$11-12	12, 17
Home-based neonatal care	\$150 -2,996		\$7	34, 39
Participatory women’s groups for maternal and neonatal care	\$83-263			36
Integrated Approaches				
Individual PVO/NGO child survival projects supported by USAID	<\$1,000 - \$1,198			135
Review of 32 recent PVO/NGO child survival project supported by USAID	\$1,293			102
UNICEF Accelerated Child Survival and Development Project	\$407			101
Comprehensive primary health care	\$2,775-3,800	\$40	\$77	120, 129

These interventions are among the most cost-effective interventions known (Jamison, 2006).

What lessons can be drawn from both unsuccessful and successful experiences?

Very few unsuccessful experiences have been adequately documented and reported. This is unfortunate, because anecdotes abound about such experiences. The lack of documentation about them limits our ability to learn from them for the future. There is obviously a “documentation bias” present.

In our view, the most successful integrated programs with a sustained and documented impact on child health are the following: the Jamkhed Comprehensive Health Project in Jamkhed, India; SEARCH (Society for Education, Action and Research in Community Health) in Gadchiroli, India; the Matlab MCH-FP field site in Matlab, Bangladesh (a research field site for the International Centre for Diarrhoeal Disease Research, Bangladesh/Centre for Health, Population and Nutrition), and the Hospital Albert Schweitzer in Deschappelles, Haiti. All four of these programs have been in operation for 20-50 years, they have all published documented mortality impacts, and they provide integrated services. In addition, we have included BRAC, which does not have a published mortality impact but has clearly been successful in developing well-functioning community-based primary health care programs at scale.

As Table 2 demonstrates, these long-term programs have a number of important shared characteristics, which include a broad array of primary health care services including family planning and reproductive health, access to referral care at higher levels, utilization of community-level workers and support for them through strong training and supervision, routine systematic home visitation, a strong partnership between the health program and the community, a strong level of trust in the community of the health program, and treatment of clients with a high level of respect. These programs are described on pages 119-121, 127-129, 157-165 of Volume 2.

Table 2. Common Characteristics of Five Successful Longer-Term Programs

Characteristic	Matlab	HAS	Jamkhed	SEARCH	BRAC
Year established	1965	1967	1970	1985	1981
Size of population of catchment area	100,000	150,000	300,000	80,000	110 million (in Bangladesh alone)
Comprehensive array of child health services provided	Yes	Yes	Yes	Yes	Yes
Comprehensive array of maternal, reproductive health, and family planning services provided	Yes	Yes	Yes	Yes	Yes
Community-based tuberculosis and (if appropriate) HIV/AIDS programs?	No	Yes	Yes	No	Yes
Does the program provide general curative services?	Yes	Yes	Yes	Yes	Yes
Does the program provide surgical and/or other hospital inpatient services?	Yes	Yes	Yes	Yes	No
Does the program provide rehabilitative services?	No ¹	Yes	Yes	Yes	No
Community health workers an integral part of the program	Yes	Yes	Yes	Yes	Yes
Are CHWs paid?	Yes	Yes	No	Yes	Yes ²
Does routine systematic home visitation of all houses take place?	Yes	Yes	No ³	Yes	Yes
Are many essential services for improving child health provided in the home?	Yes	Yes	Yes	Yes	Yes
How strong is the training and support of community-based workers?	Very strong	Fairly strong	Very strong	Very strong	Very strong
How strong is the referral system to higher levels of care and fixed facilities, including hospitals	Very strong	Very strong	Very strong	Very strong	Strong
How strong is the partnership between the program and the community?	Fairly strong	Fairly strong	Very strong	Very strong	Very strong
How strong is the level of trust of the community in the program?	Very strong	Very strong	Very strong	Very strong	Very strong
Does the program have a record of maintaining supplies and drugs?	Yes	Yes	Yes	Yes	Yes
Does the program have a record of treating patients and clients with a high level of respect?	Yes	Yes	Yes	Yes	Yes

Notes: 1. Although the Jamkhed CHWs do not receive a salary, they do receive special training and access to credit to enable them to become economically self-sufficient through their own income-generating activities.

2. The BRAC CHWs do not receive a salary, but they do receive a small income from the community for the sale of certain supplies and products and for the treatment of TB patients.

3. The Jamkhed CHWs are in frequent contact with everyone in the community even though they do not have a systematic process for visiting each home on a fixed schedule.

What additional research is needed?

One of the most important findings from our review is the recognition of the need for studies of packages of interventions in routine field settings at scale over longer periods of time. Bhutta et al. (2005) came to a similar conclusion in their review of 740 studies of the effectiveness of community-based interventions for improving perinatal and neonatal health outcomes. They found only 10 studies that were carried out in routine field settings that could be considered effectiveness trials. Haws et al. (2007), in their search for packages of community-based interventions to improve neonatal health, found no studies at scale in routine settings.

Bhutta et al. (2005) also call for more research in routine settings, in larger populations, with improved quality of methodology, and also need for studies of cost-effectiveness. They state that major barriers to improving routine programs include (1) a failure to empower communities and to mobilize communities to embrace effective interventions and (2) a lack of understanding of community practices and culture. They call for more research on these issues. Also, they call for more research on the effectiveness of behavior change packages at the household level and on the effectiveness of treatment of newborn illness within the community (especially related to asphyxia and sepsis). Also more research needed on which type of community health workers are best able to provide community-level interventions that promote maternal, perinatal and neonatal health.

Haws et al. (2007) conclude that there is a need for effectiveness trials carefully tailored to local health needs and circumstances and conducted at scale for improving neonatal health. The study by Bhandari et al. (2004), assessing complementary feeding among *Anganwadi* workers in India, is notable for the application of a rigorous evaluation methodology to a routine service situation.

Their recommendations are applicable for the entire spectrum of CBPHC interventions for improving child health, not just for perinatal and neonatal health.

Assessing the effectiveness of packages of interventions at scale is going to require, among other things, new methods which are based on observations and plausibility rather than experiment designs (Victora et al., 2004). Such methods will need to include assessments of the context of program implementation in order to provide proper interpretation of results (Victora 2005). The experience of the Multi-Country Evaluation of Integrated Management of Childhood Illness provides a framework for thinking about these issues for large-scale programs (Bryce et al., 2005).

Finally, there is a need to involve communities themselves in the monitoring, evaluation, and research process. Collaborative research endeavors between academic institutions and communities have only recently begun to bear fruit in developed countries (Minkler and Wallerstein, 2003), but the potential for such collaborations to strengthen health programming in resource-poor settings is substantial.

How can successful community-based approaches for improving child health be scaled up to regional and national levels within the context of severe financial and human resource constraints?

The experience in Bangladesh for scaling up CBPHC, both on a national basis and within BRAC as an NGO provide strong guidance for other settings (see pages 156-165 of Volume 2). The Navrongo Initiative in Ghana has built on many of these same principles in scaling up a successful CBPHC program in Ghana (see pages 130-133 of Volume 2).

What are the implications for regional, national and global health policy, for program implementation, and for donors?

The findings of this review highlight the need to give stronger attention in program funding to CBPHC for improving child health in high-mortality settings. They also call for a more balanced approach between highly selective approaches and integrated approaches. Finally, the need for independent assessments of large-scale program effectiveness in reducing under-5 mortality which are publicly available and which conform to international scientific standard is critical for continued improvements in program effectiveness. These issues are discussed further below (pages 15 and 23 of this report, Volume 1).

Further Questions Which This Review Raises

The original study questions are critical ones, and our review has only partially answered them. However, the review has also led to another set of questions which we refer to as “second tier” questions related to CBPHC and child health. They might be considered as questions which are related to the Carl Taylor dictum: “There is no universal solution, but a universal process to identify local solutions.” The central second-tier question is, how do we apply this dictum to CBPHC and child health? Specific questions which arise from this are the following:

- How can we feasibly and accurately determine local epidemiological priorities to guide local programming? (What are the most frequent, serious, preventable or readily treatable childhood conditions in the population?)
- How can we feasibly and accurately determine what the local population’s perceptions of its own health priorities are?
- How can a targeted CBPHC approach at the same time effectively respond to local priorities?
- How can large-scale health systems build trust and partnership with the local communities and promote accountability to the local communities when these systems themselves are often dysfunctional?
- Where does curative care fit in more generally into the CPBHC paradigms we are considering?
- How can local creativity, local initiative, and local responsibility be encouraged?

There are a number of methodological questions which this review has raised, and some glimpses of answers may be present in the descriptions of project/programs/studies included in Volume 2. However, they deserve further investigation. These questions include the following:

- What can be done to encourage mothers, families, households, and communities to adopt healthier behaviors for their children?
- What can be done to promote acceptance of “technical” interventions (i.e., those that require support from the formal health system, such as EPI, or those which require a specific medication, such as childhood pneumonia, or a specific micronutrient)?
- How do we define and measure the degree of partnership which exists between health systems and communities? How important is it? How can we promote it?
- How do we define and measure empowerment of women and communities? How important is it? How can we promote it?
- How should the CBPHC package change in different contexts?
- What elements of CBPHC should be present in all settings?
- What elements of CBPHC should be present in specific types of settings?
- How does the context affect the preferable package of CBPHC?
- Which CBPHC interventions require strong health system integration support and which ones don't?

To a certain degree, the answers to this second group of questions requires thinking about the situational context and the programmatic context in which CBPHC is being implemented. To promote further thinking on these questions, we propose the following typology as a framework to consider how the application of CBPHC interventions to improve child health might vary from one context to another (see Table 3).

Table 3. Typology of Contextual Factors for High-Mortality, Resource-Poor Settings

Contextual Factor	Range of Extremes	
	More challenging	Not as challenging
Political environment	Unstable	Stable
	Authoritarian, centralized political power	Democratic, decentralized political power
Geographic environment	Sparsely populated, rural	Densely populated, urban
	Tropical wet climate	Dry, moderate climate
Socio-economic environment	Bare subsistence	Poor but minimum basic necessities present
	Food inadequate	Food adequate
	No infrastructure	Access to water, sanitation, transport, etc.
Cultural environment	Highly traditional	Open-minded, modernistic
Epidemiological environment	Extremely high under-5 mortality (200+)	Moderately high under-5 mortality (60+)
	High prevalence of HIV/AIDS	No HIV/AIDS
	High prevalence of malaria	No malaria
	Neonatal mortality not a major component of under-5 mortality	Neonatal mortality is a major component of under-5 mortality
Health care system environment	Essentially no available modern health services	Basic health system available and functioning
	Local healers, drug sellers, TBAs dominant	Modern, formal health system dominant
	CHWs (connected to formal health system) not present	CHWs (connected to formal health system) not present
	No supervision at periphery of formal health system	Strong supervision at periphery of formal health system

DISCUSSION

The foregoing provides an overview of research findings and further questions that have arisen related to the effectiveness of community-based primary health care in improving child health. Overall, these findings provide impetus to the fundamental principle that, under the right conditions, communities can become strong partners in the process of improving the health of children and that health programs can more effectively improve the health of children by harnessing the energy of local people for their own benefit.

There can be no doubt that the specific interventions which have been assessed here are efficacious under ideal field conditions. However, the question remains: how can these specific interventions along with other priority interventions be implemented as parts of a package for affordable and feasible programs that can be scaled up and sustained while at the same time maintaining their efficacy in improving child health and meeting the expectations of the local population? This question is a

challenging one that will require considerably more experience tied to rigorous independent assessments in a variety of settings in order for genuine progress to occur.

We need more field research on these important topics, and in particular we need more research on how low-cost affordable and effective packages can be taken to scale under routine field conditions with demonstrable benefits in reducing under-5 mortality. This review has included promising low-cost approaches that engage the poorest and most marginalized members of society in participatory activities that are both empowering and effective in improving health. The challenge now is to disseminate this information and to further refine and extend it.

The impact which CBPHC has shown in such extremely poor and diverse countries such as Haiti, Cambodia, Afghanistan and those of West Africa suggest that CBPHC should be a fundamental building block of health improvement in severely impoverished and fragile states. CBPHC is more readily affordable than services provided at curative health facilities, and it is more sustainable when the fragile health system breaks down. Once a simple local functioning community-based outreach system is in place, it can continue to function with minimal additional inputs from the formal health system, and additional interventions can be added on with relative ease – both at the community level as well as at higher levels of care.

This review provides ample evidence that strengthening CBPHC is a “must” if the Millennium Development Goal for child health is going to be reached in the not-too distant future, especially in the poorest countries with the most fragile health systems. In order to do this, we need more field sites which can test alternative approaches to CBPHC at scale and which can serve as “models in action” that others can visit and that the world can learn from through scientifically credible assessments that are publicly available.

We need more BRACs, Hôpital Albert Schweitzers, Jamkheds, Matlabs, Narangwals, Navrongos, and SEARCHes that can test and scale up effective approaches to improving child health and that can inform and inspire tomorrow’s leaders to build on the examples that these programs have established. But we also need more external evaluations of large-scale government programs with the results published in peer-reviewed journals and in other venues that ensure quality, independence and transparency. The recently published studies on conditional cash transfer programs in Mexico and Central America are examples of a promising new approach.

CONCLUSIONS AND RECOMMENDATIONS

The Relevance of Community-Based Approaches for Improving Child Health

1. Increasing numbers of community-based interventions of proven efficacy (i.e., demonstrated effectiveness in carefully controlled field settings) in reducing child mortality are being identified, and their implementation is having an increasing impact on reducing the number of child deaths

around the world. There is no such similar evidence available for approaches which only strengthen services within facilities. In fact, there is compelling evidence that strengthening care in facilities alone will not improve child health within the surrounding population.

Recommendation: Priority should be given to expanding the coverage of efficacious community-based interventions for promoting child health.

2. There is evidence of long-term effectiveness (in more routine field settings) of integrated packages of community-based interventions in reducing child mortality, but the evidence base is considerably less and more difficult to obtain than for the short-term efficacy of individual interventions.

Recommendation: There is a need for ongoing, long-term assessments of large-scale integrated programs in routine field conditions, and methods for assessing effectiveness which have scientific credibility need to be developed and used.

3. There is a striking lack of examples in which the community is a true partner in the implementation or in the evaluation of the interventions. Community-based programs have most commonly used communities as passive recipients (i.e., as “targets”) rather than as resources with a sense of being partners having ownership of the process. Increasing evidence gives strong indication that community empowerment and empowerment of women can have a remarkable impact on the health of children.

Recommendation: Field studies are needed to measure the causal influences of approaches which foster community partnerships and which promote community and women’s empowerment (including involvement of communities in assessments of efforts to improve the health of their children).

4. The evidence that community-based interventions can be effective in reducing neonatal mortality is strong, and major reductions in neonatal mortality will be required in order to achieve MDG 4 (of reducing under-five mortality by two-thirds between 1990 and 2015).

Recommendation: Efficacious home-based neonatal care interventions need to be given prominence in programs and tested at scale in routine field conditions as part of a larger health care package.

5. Aside from effective community-based interventions aimed at preventing and treating the biomedical causes of death (e.g., case management of childhood pneumonia and malaria, oral rehydration for diarrhea, immunizations, and so forth) and aimed at improving childhood nutrition, there is growing evidence that indirect approaches which do not involve health or nutrition interventions can improve the health of children. These interventions include increasing the income of poor women through micro-credit or through direct cash transfers, empowering women in other ways (e.g., through education and literacy training), and providing a social and political environment

which supports maternal and child health and which ensures access to high-quality services (e.g., as has been achieved at scale in Costa Rica, Cuba, Kerala, and Sri Lanka).

Recommendation: Increased attention is needed on assessing the effects of non-health interventions on child health and promoting these interventions for their benefits to the health of children.

Common Strategies of Successful Community-based Programs

Within the formal health system (from the “top down” through outreach)

1. Effective outreach strategies arising from facilities for ensuring that essential education messages and key services reach a high percentage of families with women of reproductive age, pregnant women, and young children are required. Systematic home visitation (i.e., to all homes on an ongoing basis) is a common strategy along with so-called “satellite clinics” in which basic services such as immunizations, family planning and prenatal care are provided intermittently (e.g., monthly) at locations convenient to all households. Such approaches promote equity.
2. Many successful community-based programs have been able to provide referral care as part of a systematic approach to health improvement. Ideally, referral to a primary health care facility and also to a hospital referral facility should be available.

Within the community at the household level

3. Some form of community-based worker – either volunteer or paid – is needed to link the community and the health system. There is a wide variety of types of workers among programs demonstrating success, and there is “no one size that fits all.”
4. Interventions to promote healthy family and household behaviors must reach all of those for whom they are intended if they are going to be effective.

Linking the “top-down” with the “bottom-up”

5. In many settings, NGOs have worked in coordination with government programs to expand program effectiveness, often working directly with communities in ways that government programs have been unable to because of shortages of staff and logistical support.
6. Program effectiveness requires careful attention to the selection of lower-level staff, their training and supervision, and logistical support. These issues become critically important in scaling up program activities to larger populations, and they require a well-designed, ongoing stable support structure of professional leadership, long-term planning, and financial support.

Recommendation: There needs to be continued efforts to strengthen the above-mentioned program elements and to test the cost-effectiveness of improvements to these program elements while at the same time adding new aspects of programming, especially in the area of building community partnerships and promoting community and women’s empowerment.

Noteworthy Gaps

1. Aside from studies of the effectiveness of community-based approaches to the prevention and treatment of malaria, there is limited evidence from Africa related to the effectiveness of other community-based approaches in improving child health.

Recommendation: The effectiveness of community-based approaches needs to be independently assessed in a variety of African settings. Studies which demonstrate effectiveness of approaches outside of Africa need to be replicated within the African context.

2. Given the rapid growth of urban low-income communities in developing countries and the fact that the populations of such communities in many countries are larger than the rural populations, there is a notable lack of studies on CBPHC in urban low-income settings.

Recommendation: Model program sites and ongoing field research in urban low-income urban settings are needed.

3. Coverage of certain community-based interventions of proven effectiveness (e.g., access to community case management of pneumonia and malaria which conform to current international standards, home-based neonatal care, and handwashing) is not being monitored on a widespread basis.

Recommendation: Coverage of key community-based interventions and practices needs to be assessed on a regular basis as part of monitoring program effectiveness.

4. There are relatively few studies of the mortality impact of integrated approaches at scale.

Recommendation: There is a need for rigorous assessments of community-based integrated approaches for improving child health at large scale, including assessment of different methods of scaling up.

5. Assessments of efforts to improve the linkage between existing health programs and communities are urgently needed. Little documentation exists in the literature regarding the testing of different approaches to strengthening this at scale. Immunization programs have had a vast experience in addressing this issue, but little documentation of this experience is readily available.

Recommendation: Lessons learned from efforts to improve the linkages between health systems and communities need to be sought and used in formulating stronger ties for improving the effectiveness of interventions requiring health system involvement.

6. The evidence regarding the effectiveness of large-scale community-based programs for reducing stunting and wasting in non-famine situations is inadequate, as is the evidence more generally regarding the effectiveness of all types of large-scale health programs in reducing under-5 mortality.

Recommendation: All future large-scale nutrition programs aimed at reducing childhood malnutrition should be implemented with a rigorous evaluation of program effectiveness and with alternative approaches which make it possible to test their relative effectiveness. Other types of large-scale programs aimed at reducing under-5 mortality should also undergo rigorous evaluation which are planned before program implementation begins, with the inclusion of appropriate control groups in the study design.

7. The impact of family planning on reducing child mortality is well-established, as is the impact of good maternity care on neonatal health. Strengthening community-based family planning and community-based maternity care in areas of high mortality and weak health systems can also have strong benefits for child health.

Recommendation: Community-based approaches for improving child health need to be linked with community-based approaches to promote family planning and improved maternity care.

8. There are relatively few examples of projects and programs with full descriptions of the context and the programmatic features linked to outcome and indicators. Thus, judging program effectiveness becomes difficult.

Recommendation: Standards need to be established for describing program inputs, processes, outputs, and impact that will make it possible to have a better assessment of program effectiveness and evaluating factors which contribute to success.

Toward a Better Balance between Selective, Vertical Approaches and Integrated, Horizontal Approaches for Improving Child Health

The “interim strategy” of “top-down” selective primary health care promoted by Walsh and Warren (1979) needs to be complemented by a vigorous strategy of strengthening local capacity to provide integrated, effective packages of key interventions through community partnerships. Strengthening integrated community-based approaches to reproductive and child health have the potential to ignite a second revolution in maternal, newborn and child survival and to accelerate progress in achieving the Millennium Development Goals for women and children. There is widespread agreement that vertical approaches have an important role to play for a few select priority conditions and interventions. But so does building local capacity for integrated local approaches which address a much broader array of important issues which are also important for health.

The growing scientific evidence that CBPHC can improve the health of children at scale at an affordable cost for even the most impoverished societies provides a powerful incentive to continue to move forward rapidly in the expansion of programs that build on principles of CBPHC. At the same time, our

review of the evidence of the effectiveness of CBPHC in improving child health makes it abundantly clear that continuation and expansion of high-quality field research and monitoring of mortality impact are fundamental to continued progress in improving the health of mothers and children and the achievement of the Millennium Development Goals in the foreseeable future.

For those interventions which have a strong scientific basis of effectiveness which still yet are not widely adopted, the challenge now is to implement these in packages first on a pilot basis and then to scale these up, with rigorous assessments to judge effectiveness and to make adjustments in implementation as the scale of implementation expands.

The widespread application of this knowledge at scale coupled with careful monitoring of the effectiveness of community-based approaches and their integration with higher levels of health services has the potential to spark a second revolution in maternal, neonatal and child health and to accelerate progress in reaching Millennium Development Goal 4 of reducing under-5 mortality by two-thirds between 1990 and 2015.

The gap between what we know can be done to save the lives of the almost 10 million children who are dying each year and what is actually occurring is tragic and, in fact, is now a moral crisis for the modern world. This report summarizes much of what is known about the effectiveness of community-based initiatives in improving the health of children and provides insights about how such approaches can be more widely applied for the benefit of those most in need. Without the engagement of local people in improving their own health, the potential of local health systems for improving the health of the most impoverished at an affordable cost will never be realized.

CBPHC is a vital asset for improving the health of children. It also needs to be seen as an integral and foundational part of a system of care which includes primary health care facilities and referral hospitals. The poorer the community and the more fragile the health system, the more important is CBPHC to the health of children. Mothers are the main producers of health for children, and their ability to do this is dependent on access to knowledge, social support, and low-cost readily available services that CBPHC helps to provide.

Just as scaling up vertical interventions was the overarching priority in the 1980s and 1990s, the challenge for the next two decades is going to be scaling up packages of integrated interventions (with a strong component of CBPHC) which can be effective in lowering mortality AND which can serve as the building blocks of a system of primary health care. Having sufficient planning, financial, professional, and technical support will be critical in order for this effort not to fail in the same way that the primary health care efforts of the early 1980s failed. But even more importantly, ongoing strong and rigorous evaluations of integrated packages of interventions at scale under varying conditions will make it possible to learn as we go along and thereby ensure success toward the goal that all agree is a global priority – Health for All as defined by the International Conference on Primary Health Care in 1978.

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